

ABSTRACT OF THE DISCLOSURE

An electron-emitting device includes an electron source layer made of a metal, a metal alloy or a semiconductor, an insulating layer formed on the electron source layer and a metal thin film electrode formed on the insulating layer. Electrons are emitted upon application of an electric field between the electron source layer and the metal thin film electrode. The insulating layer has at least one island region which constitutes an electron-emitting section in which the film thickness of the insulating layer is gradually reduced. The electron-emitting device further includes a carbon region made of carbon or a carbon compound on at least one of a top, bottom and inside of the island region.